

Serial No.: 09/496,137

Attorney's Docket No.:06618/414001/C1T2945

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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Cancelled)
  
2. (Previously presented) A method of producing a shape, comprising:
  - using a virtual reality environment in which positions of a user's hand are tracked;
  - forming a three-dimensional modeled surface by adding shapes defined by hand movements at each of a plurality of intervals; and
  - wherein an inside surface of the hand is used to form the modeled surface, by tracking movement of a tangent to the hand, to define a tangent plane of a surface being created.
  
3. (Original) A method as in claim 2 wherein said using comprises tracking hand movement is tracked via a tracker and glove.

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4. (Currently amended) A method as in claim 1 further of producing a shape, comprising:

using a virtual reality environment in which positions of a user's hand are tracked;

forming a three-dimensional modeled surface by adding shapes defined by hand movements at each of a plurality of intervals, wherein an added shape comprises a surface region formed from sampled positions of a hand movement in the virtual reality environment during at least one of said intervals; and

using an incremental technique to take an existing mesh of samples and changing it to add a new sample.

5. (Previously presented) A method of producing a shape, comprising:

using a virtual reality environment in which positions of a user's hand are tracked;

forming a three-dimensional modeled surface by adding shapes defined by hand movements at each of a plurality of intervals;

using an incremental technique to take an existing mesh of samples and changing it to add a new sample; and

wherein said technique comprises finding a neighborhood of samples, identifying a surface region, removing identified

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parts, and creating new parts to replace the identified parts, where the new parts take a new sample into account.

6. (Previously presented) A method as in claim 5 wherein said technique utilizes a projective plane to determine how the new parts should be formed.

7. (Previously presented) A method of producing a shape, comprising:

using a virtual reality environment in which positions of a user's hand are tracked;

forming a three-dimensional modeled surface by adding shapes defined by hand movements at each of a plurality of intervals;

wherein the surface is selected as a normal to the surface of the hand.

8. (Currently amended) A method as in claim [(1)] 4 further comprising defining a first hand position which defines a starting position and a second hand position which defines a stopping of drawing.

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9. (Currently amended) A method as in claim [(1)] 4  
further comprising defining a hand position which forms an  
eraser tool.

10. (Currently amended) A method as in claim 1 further of  
producing a shape, comprising:

using a virtual reality environment in which positions of a  
user's hand are tracked;

forming a three-dimensional modeled surface by adding  
shapes defined by hand movements at each of a plurality of  
intervals, wherein an added shape comprises a surface region  
formed from sampled positions of a hand movement in the virtual  
reality environment during at least one of said intervals; and  
modifying the drawing using one of a plurality of props.

11. (Original) A method as in claim 10 wherein said props  
are tongs which can be squeezed and moved to rotate the shape.

12. (Original) A method as in claim 10 wherein said prop  
is a spherical ball.

13. (Original) A method as in claim 10 wherein said prop  
is a sponge which alters a look of the shape.

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14. (Original) A method as in claim 13 wherein said altering is by smoothing.

15. (Cancelled)

16. (Currently amended) A method as in claim [(15)] 25, wherein said forming comprises using the hand to create 3d-strokes of shape.

17. (Currently amended) A method as in claim [(15)] 25, wherein said using comprises using the bend of the hand to define the curvature of 3d-strokes.

18. (Currently amended) A method as in claim 25, of  
producing a shape, comprising:  
~~tracking a position of a user's hand;~~  
~~forming a three-dimensional modeled surface based on said~~  
~~position of said user's hand at different times;~~  
~~wherein said forming comprises using the hand to create 3d-~~  
~~strokes of shape;~~  
~~further comprising displaying a trace of the path of the~~  
~~hand;~~

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sensing at least 7 of the hand's degrees of freedom for the purposes of shape creation, said degrees of freedom including the hand's position and orientation in space, along with degrees of freedom that are affected by the hand's posture.

19. (Currently amended) A method as in claim 25, ~~as~~ producing a shape, comprising:

~~tracking a position of a user's hand;~~  
~~forming a three-dimensional modeled surface based on said position of said user's hand at different times;~~

wherein said forming comprises using the hand to create 3d-strokes of shape, each 3d-stroke of shape comprising a plurality of points created in 3d-space by motion of the hand, the plurality of points defining the 3d-stroke of shape; and

further comprising merging samples from one hand position to an existing shape.

20. (Previously presented) A method of producing a shape, comprising:

tracking a position of a user's hand;  
forming a three-dimensional modeled surface based on said position of said user's hand at different times;

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wherein said forming comprises using the hand to create 3d-strokes of shape; and

wherein said samples are added by deprojecting a shape, removing parts, adding new parts, and reprojecting said shape.

21. (Currently amended) A method as in claim [[15]] 25 further comprising using hand postures to switch between different modes of operation.

22. (Cancelled)

23. (Currently amended) A method as in claim [[15]] 25, wherein a second hand posture comprises a stop track posture.

24. (Currently amended) A method as in claim [[15]] 25, further comprising displaying different tools at the hand's position based on different postures.

25. (Currently amended) A method as in claim 15 further of producing a shape, comprising:

tracking a position of a user's hand; and

forming a three-dimensional modeled surface by finding hand positions at different times, storing those positions, and

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forming the surface using said positions to define points on the actual surface that is formed;

wherein a first hand posture comprises a start to track posture; and,

using the finger to draw a narrower stroke.

26-32. (Cancelled)